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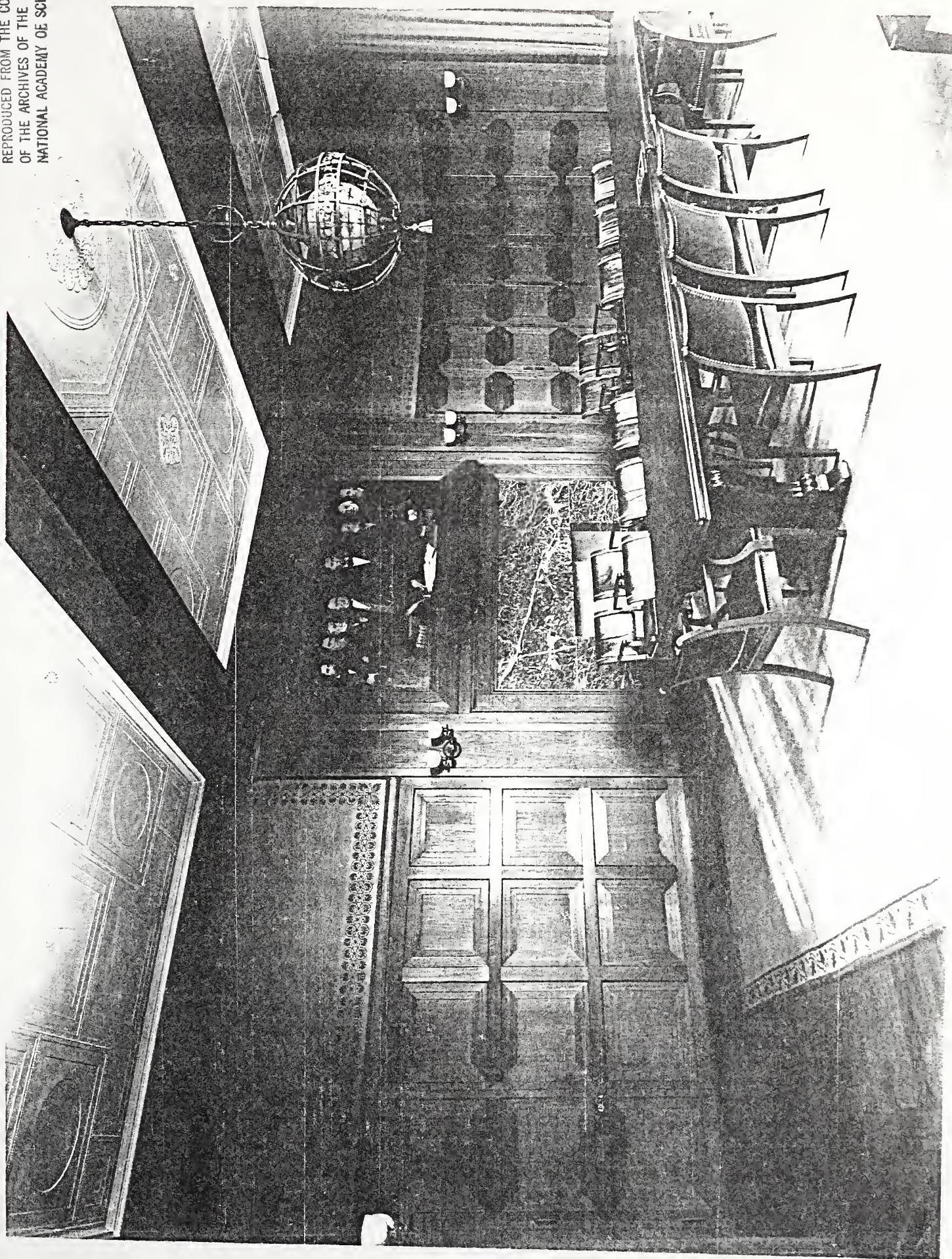
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Artists of Abraham Lincoln portraits

Albert Herter

Excerpts from newspapers and other
sources

From the files of the
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PHOTOCOPY
(original in safe)



Founders of the National Academy of Sciences

Painting by Albert Herter

Benjamin Peirce -

April 4, 1809 - October 6, 1880

Mathematician and Astronomer

Librarian of Harvard University from 1826 until his death in 1880

Alexander D. Bache -

July 19, 1806 - February 17, 1867

Physicist

Superintendent of United States Coast Survey from 1843 until his
death in 1867

Joseph Henry -

December 17, 1797 - May 13, 1878

Investigator of Physics

First Secretary and Director of the Smithsonian Institution from 1846
until his death in 1878

Jean Louis Agassiz -

May 28, 1807 - December 14, 1873

Zoologist

Founded the Museum of Comparative Zoology at Harvard. - 1859

In charge of the Museum at Harvard University from 1859 until his
death in 1873

Abraham Lincoln -

February 12, 1809 - April 15, 1865

Sixteenth President of the United States

Chartered the National Academy of Sciences in 1863

Senator Henry Wilson -

February 16, 1812 - November 22, 1875

Vice-President of the United States 1873-1875

Admiral Charles H. Davis -

January 16, 1807 - February 18, 1877

Naval Officer

Superintendent of the Naval Observatory from 1873 until his death
in 1877

Benjamin A. Gould -

September 27, 1824 - November 26, 1896

Astronomer

Established the Astronomical Journal in 1849; publication suspended
in 1852. He reestablished the Journal in 1885 and was actively
engaged in its publication until his death in 1896

2311 CONNECTICUT AVENUE
WASHINGTON, D. C.

Feb. 23 1924

My dear Mr. Brockett:

I know nothing specific about the signing by Mr. Lincoln of the Act of Congress of March 3 1863 incorporating the National Academy of Science.

That was at the end of a short session of Congress and there is always a pressure of business at that time, a fact that perhaps accounts for the statement to which you refer.

From all I have learned about

Mr Lincoln and his habits, particularly the care he bestowed upon routine work, such as the reading of evidence in desertion cases, I should be much inclined to doubt an assertion that he signed the bill in question without knowing its contents pretty thoroughly.

While without scientific training he took an interest in such matters. My father has said that ~~the few books~~ he found time to read during the

hurried days of the Civil War were during his presidency the little because he had for reading was devoted almost of necessity to works of a military character, but that he occasionally sought secular works with great interest

and he felt the deepest friendship and admiration for Prof. Henry Allen at the head of the Paulkstonian Institution

Yours sincerely,



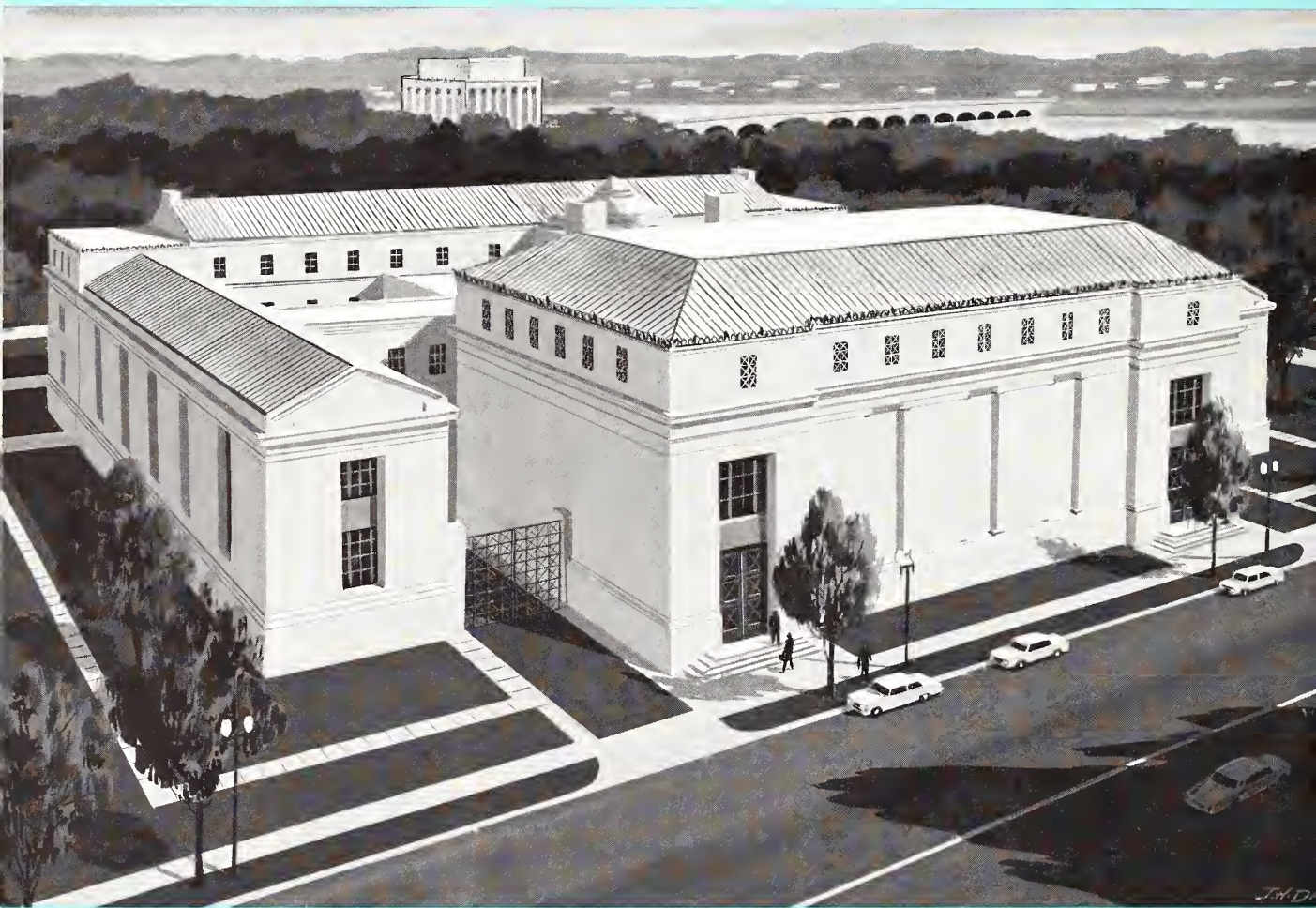
The National Academy of Sciences

Probably the most striking thing to emerge from the experience of the past eight years, is the proof, if additional proof is necessary, of the wisdom of Congress in setting up the Academy with its broad charter. The existence of a body based on the proven distinction in science of its members, and obligated to give unbiased advice at the top level and without compensation, has proved of inestimable value not only to the Government but to civil science as well. It constitutes not only an agency of constructive advice and service, but likewise a shield of protection for the asking agency against the attacks of political or self-interest groups.

From the final report of Frank B. Jewett,
President of the National Academy of Sciences, 1939-1947.
President, Bell Telephone Laboratories, Inc., 1925-1940,
Chairman of the Board, 1940-1944



NATIONAL ACADEMY OF SCIENCES Washington, D.C.



PROPOSED NEW AUDITORIUM

THE NATIONAL ACADEMY OF SCIENCES

THE NATIONAL ACADEMY OF SCIENCES was founded on March 3, 1863, by an Act of Incorporation passed by the Congress of the United States and signed by President Abraham Lincoln. The Act established the Academy as a self-governing and self-perpetuating company of scientists and engineers and called upon it to act as an official adviser to the Federal Government, upon request and without fee, in all matters of science and technology.

This extraordinarily broad charter has enabled the Academy to devote itself to the furtherance of science and its use for human welfare; and, as an official adviser to the Federal Government, to provide a unique mechanism by which the nation's scientists, physicians, and engineers can contribute their knowledge and experience to pressing national problems and to the advancement of national purpose. The flexibility of the original charter is demonstrated by the fact that in 1964 the governing body of the Academy employed it, in cooperation with the national engineering community, to create within its framework a National Academy of Engineering which is autonomous in its choice of members (now nearly 200), but works as part of the over-all corporation in sharing the advisory responsibility.

Although the Academy came to birth in the midst of a bitter civil war, its earliest activities dealt for the most part with nonmilitary concerns of a government cautiously learning the relationship of science and technology to the national endeavor. Among the first tasks assigned to the Academy were those dealing with weights, measures and coinage, magnetic deviation and bottom-fouling in iron ships, wind and current charts and sailing directions, materials for the manufacture of cent coins, the prevention of counterfeiting, and on the establishment of metric standards for the States. The Academy pursued these tasks with diligence and exactitude, seizing upon every opportunity to cloak the bare subject matter with instructive evidence of the benefits of scientific analysis.

As evidence accumulated of the Academy's ability to provide technological advice on what were, for the most part, material problems, the Government came to recognize more and more the importance of science as an essential element of mental and material progress. The Academy was asked to advise the Government on plans for observing the transits of Venus in 1874 and 1882; to prepare instructions in 1871 for the scientific activities of the *Polaris* expedition toward the North Pole; in 1873 for the exploration of the Yellowstone; and in 1902 for the exploration of the Philippines.

Having found the Academy useful in the conduct of technical studies and in the realm of scientific advice, the Federal Government turned to it also for advice on administrative problems. In 1878, called upon by the Congress to study the overlapping responsibilities of the War and Interior Departments for territorial surveys, the Academy made recommendations that resulted in the creation of the U. S. Geological Survey, charged with considering all questions relating to the geological structure and natural resources of the public domain. Again, in 1884, the Academy was asked to review the organization of the Army Signal Service, the Geological Survey, the Coast and Geodetic Survey, and the Navy Hydrographic Office "with the view to secure greater efficiency and economy of administration of the public service in said bureaus." The resulting recommendations led to the establishment of the Weather Bureau, the Smithsonian Astrophysical Observatory, and the National Bureau of Standards. In later years, Academy recommendations played a leading role in the establishment of the U. S. Forest Service.

WORLD WAR I AND THE NATIONAL RESEARCH COUNCIL

The onset of the first World War in 1914, by cutting off the United States from the scientific resources of Europe, brought the Federal Government and the National Academy to a dawning realization of the need to mobilize the scientific and technological resources of the United States as a measure of national preparedness. By 1916, the situation had become so grave that President Wilson asked the Academy to bring into cooperation the scientific and technological resources of the Federal Government, industry, and the universities in support of the Government on an emergency basis. In response, the Academy established the National Research Council, led especially by George E. Hale, Robert A. Millikan, and Arthur A. Noyes, with a membership including the chiefs of the technical bureaus of the Army and Navy and the heads of other government bureaus engaged in scientific research. They were joined by investigators from universities and research foundations and from industrial and engineering organizations.

Within months the Research Council was actively attacking problems arising from the shortage of nitric acid and organic chemicals and from urgent needs in communications and preventive medicine. Notable achievements followed in the development of devices useful in anti-submarine warfare, in anti-aircraft location and fire-control systems, in procedures for the selection of officers and the classification of draftees, the expert testing of lenses and the production of optical glass, the investigation of traumatic shock, and the development of effective insecticides.

Out of these activities, undertaken under the pressure of national emergency, grew the concept of a permanent organization, free of political influence, that could bring government, universities, and industry into fruitful cooperation to encourage the investigation of natural phenomena and the increased use of scientific research in the development of industry. There had grown, too, a realization that the Academy, by joining its efforts with the entire U. S. community of scientists and engineers through the National Research Council, could undertake continuing investigations and operating responsibilities of considerable scope and magnitude.

Among the steps of lasting significance taken during the years immediately after World War I were the launching of the extensive program of National Research Council fellowships which over a period of thirty years enabled some 1,350 young scientists to receive postdoctoral research training; the inauguration of a Highway Research Board to provide a modern technological base for the development of a national highway system; and the publication between 1926 and 1933 of the eight volumes of the *International Critical Tables of Numerical Data of Physics, Chemistry, and Technology*.



THE FOUNDERS OF THE ACADEMY are portrayed with President Abraham Lincoln in this painting by Albert Herter, which hangs in the Board Room of the Academy building. Left to right, they are Benjamin Peirce, Alexander Dallas Bache, Joseph Henry, Louis Agassiz, President Lincoln, Senator Henry Wilson, Admiral Charles H. Davis, and Benjamin Apthorp Gould.

The World War I experience also provided to the leaders of the Academy and Research Council, and those of other countries, convincing evidence of the massive benefits of international collaboration in science and technology. The way was prepared for an international conference on international scientific organizations called by the Royal Society in 1918, where a proposal by the Academy delegation led to the establishment of the International Research Council. Reorganized in the early 1930's as the International Council of Scientific Unions, this structure of council and constituent unions has become the major nongovernmental channel of cooperation among the nations of the world in scientific undertakings.

As its relations with other scientific and engineering organizations were broadened and made more effective by the National Research Council, the Academy was called upon to assist in the organization of new professional groups in emerging fields. Thus the American Geophysical Union was formed in 1919, the Industrial Research Institute in 1938, and—in the years after World War II—the American Institute of Biological Sciences, Building Research Institute, and the American Geological Institute, each organized as a part of the Academy structure and each later becoming independent or operating with quasi independence.

WORLD WAR II AND SINCE

Although members of the Academy—in particular, Vannevar Bush, Frank B. Jewett, James B. Conant, Karl T. Compton, and Richard C. Tolman—were instrumental in mobilizing the scientific and engineering resources of the nation in preparation for World War II, the very magnitude of the effort dictated that it be carried out by the Government itself, with provision for an appropriate link with the National Academy. The responsive and fruitful relationship that developed between the Federal Government and the Academy in carrying out the war-time program was marked by a number of notable accomplishments: Among these were the recommendations of an Academy committee that an intensive drive for the military application of nuclear fission be pursued; recommendations on the large-scale production of penicillin, the development of quinine substitutes, the battlefield use of sulfa drugs, and the use of human blood plasma in transfusions; on the design of adequate defenses against the possibilities of biological warfare; the stockpiling of strategic materials; on research in metallurgy and mineral technology; on the selection and training of aircraft pilots and of specialists in radar and electronics; and on problems relating to human nutrition and aviation medicine.

Although the impact of World War II subordinated for a time the Academy's role as a learned society, it demonstrated the capacity of the Academy and

the Research Council to work with both the civil and military departments of the Government at many different levels and in widely varying fields of research. So profound was the effect on the magnitude of the Academy's relations with the Federal Government that funds from governmental sources rose from six per cent of the entire budget of the Academy and Research Council in 1939 to eighty-five per cent in 1967. During the same period annual total expenditures increased from a little over \$700,000 to more than \$20 million. It should be noted that no part of these funds is or can be used for the payment of fees or honoraria to the members of its Committees or in support of the general activities or physical facilities of the Academy.

The rapidly increasing demands upon the Academy after World War II, stemming both from the expanding needs of the Federal Government and from the growth of science itself, opened new vistas for leadership and service and made clear the requirement for further integration of the administration of the Academy and Research Council. In the over-all organization, the members of the Academy act as trustees as well as participants, and the Research Council is a mechanism through which representatives of the great national scientific and engineering societies and of the Federal scientific agencies share in guiding and carrying forward the programs of the Academy in the furtherance of science and in service to the Federal Government and the nation.

Under this organizational concept the Academy has embarked on a series of undertakings of unprecedented scope and magnitude and, in several instances, of novel design. Among them were the inauguration of the Atomic Bomb Casualty Commission, at the request of President Truman, to study the long-term effects of the bombings in Hiroshima and Nagasaki; and a series of extensive engineering tests of highway construction, culminating in the \$27 million National Road Test. Recently, a series of engineering studies was undertaken to devise more efficient and economical loading and transport systems for maritime dry cargoes. When the sonic boom associated with the proposed supersonic transport became recognized as a major issue in connection with operation of the transport, the Academy was called upon to study the issue and make recommendations. The Food and Drug Administration, acting under new regulations since 1963, has called upon the Academy to study the efficacy of all drugs licensed between 1938 and 1962.

A variety of techniques have been introduced to assist the Academy in carrying out its new and broad assignments. One that has proved most useful is the summer study, in which a core of full-time participants work intensively over a prolonged period. Recent summers have produced reviews of space research and applications; of research prospects in air warfare and undersea warfare, of education and of the complex problems of national transportation.

An increasing number of the Academy's major activities in recent years have stemmed from the deepening involvement of science in many facets of public policy. In 1955 a continuing survey of the biological effects of atomic radiation was undertaken with private support. Other areas of public concern in which the Academy has accepted responsibility include: civil defense; personal loyalty requirements relating to the award of governmental research grants; railroad and urban transportation; the utilization of technical and scientific manpower; research needs and opportunities in the field of natural resources; appropriate levels and conditions for the Federal support of research; major problems relating to air and water pollution and the use of pesticides; the use of fish products as a high protein food supplement for nutrition-deficient regions of the world; population growth and control.

As the importance of science has increased on the national scene and the Government has developed planning and reviewing mechanisms at the highest executive level, the Academy has been called upon more and more to furnish advice on general issues having scientific implications, to conduct studies on the status and potential of whole areas of science, and to provide assistance on a wide variety of *ad hoc* problems. Especially worthy of note has been the development of close collaboration with the President's Science Advisory Committee, the Office of Science and Technology, and the Congress. Among the studies prepared by the Academy for the White House are forecasts of research opportunities in oceanography and the atmospheric sciences and guidance on the problems of managing our wastes.

By 1961 the need had become clear for a senior body that could assist the President of the Academy in organizing its resources and surveying the need for new efforts in the areas of interaction between science and public policy. Such a committee was formed and under its general guidance studies have been conducted on world population problems, on the fiscal implications of the accelerated growth of the uses of computers in science, on national needs for new astronomical facilities, and on the status of research in chemistry, physics, and plant sciences. A review of governmental policies and procedures relating to the administration of grants and contracts in support of basic research has been completed. Broad studies are under way at present on the promises inherent in the life sciences and the behavioral sciences. At the request of Congress, a study of the interrelation of basic and applied science is being undertaken.

During this period, the Academy-Research Council has initiated many new activities in the international affairs of science, not only in concert with sister academies and research councils of Great Britain and Western Europe, whose relations with our own Academy are deeply rooted in history, but also with similar

institutions in Latin America, Asia, Eastern Europe, and—more recently—the newly independent nations of Africa. In 1946, a Pacific Science Conference led to the establishment within the Academy structure of the Pacific Science Board, under whose general guidance a wide variety of research undertakings in anthropology, plant sciences, earth sciences, public health and medicine, and other fields have been carried out in the Pacific Ocean areas.



THREE EARLY LEADERS OF THE RESEARCH COUNCIL are depicted in this portrait, hanging in the California Institute of Technology. Left to right, they are Arthur A. Noyes, Robert A. Millikan, and George E. Hale.

The Academy is also responsible for the participation of U. S. scientists in the International Council of Scientific Unions, the Council of International Organizations of Medical Sciences, and their constituent unions, commissions, and special committees. Through these channels, the Academy coordinates U. S. participation in such international research programs as the International Geophysical Year, the International Indian Ocean Expedition, the International Years of the Quiet Sun, the Upper Mantle Program, and the International Biological Program.

In its concern for the healthy growth of the many roots and branches of science, the Academy has in recent years been most active in furthering research in the emerging fields of nuclear science, radio astronomy, and the study of the earth and its environment. A Committee on Nuclear Science has played a leading role in stimulating the development of the new hybrid fields of radio biology and radio chemistry. A committee has been established to study and make known the requirements of radio astronomers for protected frequencies. To promote the healthy development of the broad family of geophysical sciences, the Academy has committees in oceanography, atmospheric sciences, polar research, and climatology. A Space Science Board advises the National Aeronautics and Space Administration on its scientific program. A committee has served the Atomic Energy Commission and the Congress in the matter of site location of the proposed 200 Bev accelerator and assisted in forming a national consortium of universities to undertake its operation and management.

Pursuant of its concern with the application of science to human welfare, the Academy maintains active programs in medicine and public health, food and nutrition, agriculture, and the applications of science and technology for the benefit of the less developed areas. Standing committees in the medical sciences meet from time to time to discuss problems encountered in research on the cardiovascular, cutaneous, and skeletal systems, tissue transplantation, shock, and trauma. A Committee on Problems of Drug Dependence has for a number of years advised governmental agencies with public responsibility in this field. A survey of national needs and resources has been made to clarify the proper role of the United States in research and training in tropical medicine. Other activities in this area include statistical services to research based on the medical records of twenty-two million veterans of World Wars I and II and the Korean Conflict; a program to further the development of artificial limbs and amputee care; and the investigation of problems in environmental health.

A Building Research Advisory Board, formed in 1947, continues today in an expanding program to stimulate and coordinate research in building construction and design. Vigorous activities in the furtherance of research continue in the fields of refrigeration, electrical insulation, highway research, materials, maritime transportation, and military personnel supplies.

An Agricultural Board concerns itself with scientific problems of the entire field of agriculture and its application to human welfare. It has been especially active in the fields of agricultural education, animal health and nutrition, and the preservation of indigenous strains of maize and sorghum. A Food and Nutrition Board has published widely used recommendations on dietary allowances and on safe practices in the use of food additives and has actively promoted research on protein malnutrition.

As part of its concern for the education and training of scientists and engineers the Federal Government established, in the postwar period, vast programs of fellowships at predoctoral and postdoctoral levels for both U. S. and foreign scientists. For a large number of them the Academy-Research Council has the responsibility of reviewing applications and recommending selections. Numerous committees and panels bring hundreds of scientists and engineers to this crucial task of identifying those who should be given special opportunities to prepare themselves to play their part in the leadership of science and technological development.

TODAY AND TOMORROW

In 1963, as a century's history of the Academy drew toward its close, science and engineering had grown enormously in scope and complexity and in the human and economic resources devoted to it; and the Academy had been brought to a new level of service to science and the nation. At that time the Academy decided that henceforth it should have a full-time president. Dr. Frederick Seitz, who since 1962 had been serving as part-time president, agreed to become the first full-time president.

The role of the Academy in the future, when the rapid growth of the support of science by public funds may be followed by a period of consolidation and selection, is still unsettled. What is clear, however, is that as a private body with a hundred years of experience it will remain uniquely qualified to further the development of science and engineering and the evolution of their relationship to national issues—its strength founded partly on the response of scientists and engineers to its call and partly on the desire of its membership, as trustees for the sciences, to support actions that enhance the quality of scientific work.

Upon the Academy's success in distinguishing the important from the merely urgent, in continually re-examining the basis of support necessary to keep science and technology vigorously creative, and in calling to its purposes the mind and the heart of the scientist and engineer, will depend the quality of its service and its justification for continued existence and growth in the century ahead.

THE FOUNDING OF THE NATIONAL ACADEMY OF SCIENCES— A REINTERPRETATION¹

A. HUNTER DUPREE

Visiting Assistant Professor of History, University of California, Berkeley

(Read November 16, 1956)

IN every period in the history of the United States an impulse has existed toward the creation of a central scientific organization. Although varying greatly from age to age in intent and composition, each of the resulting institutions has had two characteristics in common. Each has been national in the sense that it had some relationship with the Federal Government. Each has also attempted to embody the hopes and aspirations of the scientific community of the country independently of any official tie. The perennial models overseas, the Royal Society of London and French Academy, both in their own way combined these characteristics. Of the various efforts in the United States, the founding of the National Academy of Sciences was the most direct and self-conscious attempt to fill the void at the center which American science has felt in every generation.

The usual way of describing the origin of the National Academy is to say that it was created by President Lincoln in 1863 to assist the government in the Civil War.² By an easy analogy this statement is often translated into twentieth-century language thus: the National Academy was the Civil War version of the World War II Office of Scientific Research and Development. A closer examination of the circumstances surrounding the establishment of the Academy and the ideas of the men involved, however, leads to the conclusion that the Civil War was merely the occasion and not the cause of the birth of the Academy. Indeed, the essential lines of the organization had been formulated by 1851, and, what is more important, a closely-knit group of men worked toward a na-

tional academy from that time onward. When they had succeeded in 1863, their attempt to enter the field of weapons research was almost a complete failure, and it was their losing control of the organization after the war which finally enabled it to survive.

As president of the American Association for the Advancement of Science in the third year of its existence, Alexander Dallas Bache addressed the meeting at Albany, New York, in 1851. He was the superintendent of the United States Coast Survey, the strongest and most permanent government effort in science to that time, and hence in a good position to see the problem of central scientific organization in its broad dimensions. After surveying the institutions of both America and Europe, he declared that "an institution of science, supplementary to existing ones, is much needed in our country, to guide public action in scientific matters." He proposed appropriations from the treasury for a council which "by the sound advice . . . in regard to the various projects which are constantly forced upon" government officials would save many times its own cost. He visualized a membership spread throughout the country which could by "minute subdivision" of the efforts of many professional scientists bring maximum assistance to the government.³ Although nothing immediately came from Bache's proposal, the idea did not die during the 1850's.

When Bache stood before the AAAS as the retiring president, he also had another title. He was the "Chief" of a high-spirited group who called themselves the Scientific Lazzaroni. Pledged to eat dinner together when the AAAS or the American Philosophical Society was meeting, the membership included a fair share of the scientific brains of the country. Besides Bache, the physicist Joseph Henry, the mathematician Benjamin Peirce, the naturalist Louis Agassiz, and the geologist James Dwight Dana were without peers

¹ Parts of the following paper have appeared in somewhat altered form in Dupree, A. Hunter, *Science in the federal government: a history of policies and activities to 1940*, Cambridge, Massachusetts, Belknap Press of Harvard University Press, 1957, and are used here with the permission of the Harvard University Press.

² The standard account of the founding of the National Academy is True, F. W., *A history of the first half-century of the National Academy of Sciences, 1863-1913*, Washington, National Academy of Sciences, 1913.

³ Bache, A. D., address, *Proc. Amer. Assn. Adv. Sci.* 6: xli-lx, 1851.

in their own fields, and among the lesser lights were such energetic young men as the astronomer Benjamin Apthorp Gould and the chemist Wolcott Gibbs. Besides their joy in each other's company, they were dedicated to raising the standards of the country's science and to creating worthy institutions for young America.⁴ They tried to establish a national university in Albany and later backed the Dudley Observatory there. They also talked during the 1850's of a national university in New York City. Because of Bache and Henry on the one hand and Agassiz and Peirce on the other, the main centers of strength for the Lazzaroni were in Washington and in Cambridge, Massachusetts. If they could have found support, the Lazzaroni would have moved forward to create both a real science-centered university and a national academy during the 1850's, with weapons research a very minor consideration.

Only after the outbreak of the Civil War, however, did the Lazzaroni find a favorable climate for their operations. In the first place, the secession of the South ended a deadlock of years in the Congress and allowed new legislation with a rush, including the Morrill land-grant act for the establishment of agricultural and mechanical colleges in each state. In the second place, the Lazzaroni in Cambridge, Peirce and Agassiz, succeeded in placing a friend, James Hill, in office as President of Harvard University, and they quickened to the dream of establishing a science-centered university on the framework of Harvard's Lawrence Scientific School with the aid of the Morrill land grant for Massachusetts. In the third place, the Washington Lazzaroni, Bache and Henry, along with their friend Admiral Charles Henry Davis, had, in their offices at the head of the Coast Survey, the Smithsonian Institution, and the Navy's Bureau of Navigation, risen to positions of influence in wartime Washington.⁵ In this last respect alone did the war itself provide the group wishing a national academy with an additional opportunity. And even here to a large extent the three men represented the institutions developed in the decade and a half before the war.

Early in January, 1863, Benjamin Peirce wrote to Bache inquiring about the next meeting of the

Lazzaroni.⁶ By late January the meeting was set for about February 21 in Washington, with Peirce planning to be at the capital from February 14 to February 23.⁷

Meanwhile the Washington Lazzaroni Bache and Henry, with Admiral Davis, got together sometime late in January to discuss the immediate possibility of setting up a "National Association under an act of Congress." Now that it came to a practical question Joseph Henry urged objections. First, he "did not think it possible that such an act could be passed with free discussion in the House—that it would be opposed as something at variance with our democratic institutions." He also feared the jealousy and ill feeling created among those scientists who were left out. Congress could not be depended on to provide appropriations, and there was danger the whole thing would be used for political ends.⁸ Bache appeared to Henry to be convinced. At any rate the chief stopped talking about a national academy. Instead, the three men arranged for the Navy Department to form a Permanent Commission, which was destined to last the remainder of the war.

The Permanent Commission, made up of Bache, Henry, and Davis, met frequently, examining proposals for new weapons and occasionally making some tests. The last report, in 1865 was numbered 257. This was the nearest thing to a central war scientific agency achieved during the Civil War.⁹

While the Permanent Commission got under way, however, Bache, Davis, and the Cambridge Lazzaroni had no real intention of heeding Henry's caution. What they needed was a friend in Congress, and Louis Agassiz produced one in Senator Henry Wilson of Massachusetts. The brilliant zoologist had evidently worked on the project for some time, for on February 5 Peirce reported that Agassiz had written to Wilson "to go ahead upon the National Academy of Science," and referred the Senator "to one . . . A. D. B. as our chief in all such matters, and as capable of furnishing him a complete plan fit to lay before Congress in 24 hours."¹⁰ Thus the wheels were still turning.

⁶ B. Peirce [Cambridge] to A. D. Bache, January 5, 1863, Harvard University Archives.

⁷ B. Peirce [Cambridge] to A. D. Bache, January 30, 1863, Harvard University Archives.

⁸ J. Henry, Washington, to Louis Agassiz, August 13, 1864, Peirce Papers, Harvard University Archives (see Appendix).

⁹ Reports of the Permanent Commission, 1863, 1864, 1865, National Archives.

¹⁰ B. Peirce [Cambridge] to A. D. Bache, February 5, 1863, Harvard University Archives.

⁴ Storr, R. J., *The beginnings of graduate education in America*, 82-93, Chicago, University of Chicago Press, 1953; in the preparation of this section I have benefited from information furnished by Edward Lurie.

⁵ The correspondence between A. D. Bache and Benjamin Peirce in the Peirce Papers, Harvard University Archives, indicates the range and nature of Lazzaroni activity.

Agassiz was fond of pointing to the founding of the University of Berlin in 1810 as an example of what a nation could do in a time of crisis,¹¹ but in spite of the glory of the enterprise an exquisite care was necessary when moving behind the back of Joseph Henry.

Agassiz reached Washington on the afternoon of Thursday, February 19, 1863. Although Henry expected him at the Smithsonian, he "put up at Bache's."¹² That evening Senator Wilson called, and besides Bache and Agassiz, Peirce and Benjamin Apthorp Gould foregathered for the Lazzaroni dinner on Saturday, were there. They perhaps had as a tangible basis for discussion a plan of an academy drawn up by Davis which had a rather cumbrous if open method of selecting the original members. However, counsels for speed and secrecy prevailed at the meeting. When Wilson emerged he had with him the draft of a bill which named fifty scientists, incorporated them as individuals into a National Academy of Sciences, and gave them the power to perpetuate themselves by filling vacancies.¹³

The Lazzaroni, of course, were on the list in full force, together with those so eminent in their fields that no one could possibly leave them off, such as, John Torrey, Asa Gray, Jeffries Wyman, and William Barton Rogers. But there were also several rather conspicuous omissions.

Senator Wilson introduced the bill in the Senate on February 21, 1863.¹⁴ The third section provided that "the Academy shall, whenever called upon by any Department of the Government, investigate, examine, experiment, and report upon any subject of science or art. . . ." This was clearly the advisory body envisioned in 1851 by Bache. Not mentioned, but implied positively by the limited number of places and negatively by the prohibition on compensation, was the honorary nature of membership. Appropriations could be had only in relation to a request from some department of the government. A general statement of principles and many details vitally affecting the nature of the organization were left to the fifty incorporators.¹⁵

Joseph Henry within a day or two, "on accidentally calling at the Coast Survey," found that "the whole matter was in the hands of Senator

Wilson!"¹⁶ Although he did not approve of the secret method of choosing the list of members he did not object strenuously because he did not believe the bill would pass—"indeed there are very few occasions when acts of this kind could be passed without comment or opposition."¹⁷ This generally excellent judgment of the political scene reckoned without the possibility that Henry Wilson might find one of the few exceptional occasions.

The Senator essentially depended on the pressure of adjournment. This was the lame-duck thirty-seventh Congress, elected back in 1860, and the session automatically ended at midnight, March 3, 1863. As the Senate rushed through matters large and small on that last day, Wilson followed a long line of private petitions by asking "to take up a bill which will consume no time, and to which I hope there will be no opposition. . . . It will take but a moment, I think, and I should like to have it passed." When no objection arose, he suggested it was "unnecessary to read the first section of the bill, which merely contains a list of names of the corporators." A preoccupied Senate, after listening to the reading of sections two and three, passed the bill without a recorded vote and moved on to consider declaring a "Day of Prayer and Humiliation."¹⁸ The House took up the Senate's bill considerably after seven o'clock in the evening and passed it without comment. Lincoln evidently signed it the same evening.¹⁹

This demonstration of legislative pliability reveals remarkably little about the basic forces producing a National Academy. The Congress as an entity had not spoken in any positive sense. Still less had the nation spoken through its chosen representatives. That the great crisis of the day made the congressmen feel they were the agents of destiny is possible, but that they connected this particular legislation with their immortal reputations is highly unlikely. Wilson did prove he knew his way around in the last minute rush, and a little group of scientists, five at the most, proved they knew what they wanted. By 1863 the professional scientists had reached a point where they only needed the politicians to put a legal rubber stamp on their arrangements.

But the secrecy that had produced such remarkable results in Congress could not last. On March 5 Henry found out the bill had become a law.²⁰

¹¹ Agassiz, E. C., ed., *Louis Agassiz: his life and correspondence* 2: 569-570, Boston, Houghton Mifflin, 1885.

¹² John Torrey, New York, to Asa Gray, March 9, 1863, Gray Herbarium of Harvard University.

¹³ Davis, C. H., *Life of Charles Henry Davis, Rear Admiral, 1807-1877*, 290, Boston, Houghton Mifflin, 1899.

¹⁴ True, *op. cit.*, 5

¹⁵ *Ibid.*, 352.

¹⁶ Torrey to Gray, March 9, 1863.

¹⁷ Henry to Agassiz, August 13, 1864.

¹⁸ *Congressional Globe*, March 3, 1863, 37 Cong., 3 Sess, 1500-1501.

¹⁹ True, *op. cit.*, 6.

²⁰ Torrey to Gray, March 9, 1863.

Letters from Wilson to the fifty incorporators spread the news through the country, catching even some of the most eminent by surprise. It took little longer for the ones passed over to realize what had happened. On March 7, George C. Shaeffer, "a *sarvan* in one of the departments," walked into Admiral Davis's office and "flew out against the Academy in good, set terms."²¹ John Torrey of New York reported that "the whole matter was concocted by the party assembled at the Coast Survey."²²

The opposition tended to center in Cambridge, not so much among those left off the list as among those who had long-standing disagreements with the leading Lazzaroni members. The botanist Asa Gray was triply involved. He had long been the antagonist of Agassiz concerning the evolution of species and the ideas of Charles Darwin. He had also opposed the plans of Agassiz for the Lawrence Scientific School, and he was fearful that a new national organization might adversely affect the American Academy of Arts and Sciences in Boston, which he had long served. William Barton Rogers, president of the new Massachusetts Institute of Technology, was opposed to Agassiz and Peirce on the disposition of the Morrill land grant for Massachusetts and was also an ardent evolutionist. If these two joined Joseph Henry in publicly opposing the Academy, it could scarcely have survived.²³

Here indeed was a crucial decision for Henry. One word of disapproval from him would have set the match. But he was not the man to let the less than candid behavior of his Lazzaroni friends influence him. While making no secret of the course of events in February, and still placing "but little faith in appropriations of Congress," he concluded to attend the first meeting "and do what I can to give it a proper direction."²⁴

The organization meeting at New York in April, 1863, which thirty-one of the fifty attended, found the Lazzaroni in firm control. Bache became the first president and members of his group took all the other important offices. Only the voice of William Barton Rogers spoke against them.²⁵

Although Bache emerged from the organization meeting in triumph, the opposition was far from dead. Admiral John A. Dahlgren sent in his

resignation in May.²⁶ Whatever his motives, the withdrawal of the man in charge of the Navy's Bureau of Ordnance was a severe blow to the Academy's ambition actually to function as scientific adviser to the government. A clear test of the Lazzaroni interest came in the election of the president of the American Academy of Arts and Sciences in Boston later the same month. Peirce lamented to Bache that "to show their hatred of the National Academy, all its opponents combined to elect Gray as President and William B. Rogers as Recording Secretary."²⁷ Gray still did not take a public stand on the National Academy, concluding to "say and do nothing—at present, and see," but he considered it "strictly governed by Coast Survey and Agassiz clique."²⁸

By the fall of 1863 even some of the Lazzaroni had doubts about the Academy. Benjamin Peirce confessed to Bache that he feared "we have made a mistake in founding the Academy—and that it may not be so great a misfortune if its enemies were to succeed in overturning it."²⁹ Despairing of "the growing falseness of Washington," he felt that for "men seeking truth to meet there, is like a party of poets meeting in a cotton machine . . . of angels in the palace of Beelzebub or of imps in Abraham's buzzum."³⁰ Thus the question had changed from whether a small group of American scientists could form and dominate a national academy to the more desperate one of whether all American scientists working together could make a corporate body survive in the harsh realities of 1863.

Bache did not delay his attempt to establish the Academy as the government's adviser. On his own authority he set up committees and had them ready to report at the meeting in Washington in January, 1864. Taken together, the committees make it clear that Bache and Davis personally inspired all the requests that came to the Academy in 1863. The total results were modest enough, and when the committees unrelated to the war effort are ruled out the remainder of service is negligible. The four committees of 1864, while not emanating directly from Bache and Davis, made no better record. No wartime committees

²⁶ *Ibid.*, 62.

²⁷ B. Peirce [Cambridge] to A. D. Bache, May 27, 1863, Harvard University Archives.

²⁸ Asa Gray, Cambridge, to George Engelmann, September 2, 1863, typed copy at Gray Herbarium of Harvard University.

²⁹ B. Peirce, Cambridge, to A. D. Bache, October 18, 1863, Harvard University Archives.

³⁰ B. Peirce, Cambridge, to A. D. Bache, October 26, 1863, Harvard University Archives.

²¹ Davis, *op. cit.*, 292.

²² Torrey to Gray, March 9, 1863.

²³ Asa Gray, Cambridge, to Joseph Henry, April 18, 1863, Gray Herbarium of Harvard University.

²⁴ Joseph Henry, Washington, to Asa Gray, April 15, 1863, Gray Herbarium of Harvard University.

²⁵ True, *op. cit.*, 21.

date later than May 2, 1864, when Grant was just beginning his campaign with the Army of the Potomac and nearly a year of fighting lay ahead.³¹ When compared with the 257 reports made by the Permanent Commission, the advice rendered by the National Academy appears slight.

The torpidity that overcame the Academy in the spring of 1864 coincided with the serious illness of its architect, Bache. With their "darling chief" incapable of further duty, the Lazzaroni maintained their quarrelsomeness without the energy and direction that the greatest government scientist of the whole period had imparted to them. Agassiz came close to precipitating a mass resignation of naturalists by fighting the election of Spencer Baird in the summer of 1864. But this election meant that the little group who controlled decisions so easily in 1863 had met an open rebuff. Joseph Henry warned Agassiz that in "this Democratic country we must do what we can, when we cannot do what we would. We must expect to be thwarted in many of our plans."³²

Through the years 1865 to 1867 attendance at meetings trailed off. With Bache ill, James D. Dana resigned the vice-presidency, leaving Henry as a kind of receiver for the organization. But Bache, even in his death, gave his creation the impetus to survival. By leaving the National Academy the bulk of his estate and by making Henry feel an obligation to continue it, he gave the support and the leader necessary to weather the crisis. Henry wrote, "I very reluctantly accepted the office of President and I was principally induced to do so at the earnest solicitation of Mrs. Bache, who since her husband was the first president, and because his fortune after her death will be under the care of the Academy, is exceedingly anxious that it should be perpetuated." Henry was "far from desiring that it should expire in my arms; but how to preserve its life and render it useful is a different problem."³³

Between 1867 and 1872 Henry developed a program for the salvation of the Academy. He made the prime consideration for membership "original research," with no one "elected into it who had not earned the distinction by actual discoveries enlarging the field of human knowledge." This definitely shifted the emphasis in the purpose of the Academy from practical service to the government to the recognition of "abstract

science."³⁴ Henry also had Congress remove the limit of fifty on the number of members. Twenty-five new members were elected at once in 1872, bringing in several who had earlier been passed over and also some energetic younger men. By Henry's policies the life and dignity of the Academy were assured, while the gifts of Bache and others provided sufficient money for it to operate as an honorary society if not as a research establishment for the government. No longer the chosen instrument of a small and spirited group, the Academy lived because Henry, who had no great positive program for it, realized that to allow such an organization to die would do severe damage to the prestige of science in America.

This view of the early history of the National Academy of Sciences brings to light some flaws in the foundation. The secrecy and the irresponsibility of the selection of the original fifty robbed the Academy of a clear chain of responsibility to the government. The brief attempt to enter the field of military research was not successful even in 1863 and 1864, thus promising little for later emergencies. Yet on another level, this story gives the Academy a broader significance from the beginning. Its organic act had the potentiality of becoming a permanent rallying point for science in the country. And the inception of the idea in the 1850's indicates that the organization was intended to serve the government throughout all the activities which used or needed science. The National Academy was a monument to Bache's peacetime dream of elevating the position of science in America.

APPENDIX

The following letter from Joseph Henry to Louis Agassiz, heretofore unpublished, gives much of the flavor of the founding days of the Academy as well as a picture of its workings in 1864. The original is in the Benjamin Peirce Papers, Harvard University Archives.

Smithsonian Institution
Aug. 13th: 1864

My Dear Professor

I have just returned to this city and find your letter of the 8th awaiting my arrival. At the Depot at Phil^l I met our friend Mr. Felton who after some remarks relative to the family of his lamented Brother; turned the conversation to yourself; and said, that when he saw you, a short time before, he thought you were looking very ill,—that you were too much occupied, with various matters, and that he had strongly urged

³¹ True, *op. cit.*, 206-226.

³² Henry to Agassiz, August 13, 1864.

³³ Joseph Henry, Washington, to Asa Gray, July 8, 1868, Gray Herbarium of Harvard University.

³⁴ True, *op. cit.*, 13-15.

you, on your own account, and on that of your family, to give up all care, and for a time to think of nothing but the reestablishment of your health.

The perusal of your letter has rendered the importance of the advice of Mr. Felton strikingly evident to me; and in view of the present condition of our much esteemed friend Professor Bache, whose malady I trust may be but temporary, I beg that you will take a more cheerful view of the proceedings at New Haven; or rather that you will banish them entirely from your mind. It is of much more importance to the science of the world that your health and life should be preserved than that the academy should be rapidly advanced to your ideal standard of perfection. In this Democratic Country we must do what we can, when we cannot do what we would. You must expect to be thwarted in many of our plans and learn how to bow before defeat with the consolation of knowing that if we have not succeeded in our aim we have at least deserved success.

After a calm review of the proceedings at New Haven I think them much more favourable than under all the circumstances of the case there was reason to expect they would be at the commencement of the meeting.

Permit me to give you a candid and free exposition of my views of the matter and for this purpose to go back to the beginning of the academy. Several weeks before you and the other originators of the academy came to Washington Professor Bache asked my opinion as to the policy of organizing a national association under an act of Congress. I stated in reply; *First*, that I did not think it possible that such an act could be passed with free discussion in the House—that it would be opposed as something at variance with our democratic institutions. *Second*—that if adopted it would be a source of continued jealousy and bad feeling—an object of attack on the part of those who were left out. *Thirdly*—that although it might be of some importance to the Government yet it would be impossible to obtain appropriations to defray the necessary expenses of the meetings and of the publication of the transactions. *Fourthly*, that there would be great danger of its being perverted to the advancement of personal interest or to the support of partizan politics. With these views, I thought, Professor Bache was impressed. He said no more to me on the subject and I heard nothing further in regard to it until after the whole scheme was organized and in charge of Mr. Wilson of the Senate.

Besides the objections I had presented to Professor Bache I did not approve of the method which was adopted in filling the list of members. It gave the choice to three or four persons who could not be otherwise than influenced by personal feelings at least in some degree; and who could not possibly escape the charge of being thus influenced. I did not, however, make any very strenuous objections

to the plan because I did not believe it could possibly become a law; and indeed there are very few occasions when acts of this kind could be passed without comment or opposition. After, however, it had become a law I resolved to give the academy very hearty support; and I have since faithfully and industriously endeavoured to advance its interest.

My anticipations in several particulars have been realized—an antagonism, such as I feared, has been produced in the minds of those who think themselves ill used in being left out; while a considerable number of those who were elected feel that they ought to have been consulted in making out the list of names. The feeling also exists, to a considerable extent, that the few who organized the academy intend to govern it; and I think this was the *animus* which excited the determination to elect Professor Baird. He was the choice of a large majority of the cultivators of Natural History; and although your opposition was honest in intention, and your position correct in general principle yet I think that had you prevailed in your opposition, a majority of all the naturalists would have resigned; and a condition of affairs would have been produced deeply to be deplored. I fully agree with you in opinion, and I presume the philosophical world would also concur with you, that as a class of investigations those which relate to Physiology and the mode of production and existence of organic forms are of a higher order than those which belong to descriptive Natural History. The good however which two persons may have done to science in these two classes will depend on the relative amount, as well as, on the character of their labours. Besides this you ought to have commenced with the application of principle of the higher investigations, in the formation of the Academy, for you could not reasonably expect that any member would vote to disparage his own pursuit.

It is true I voted for Mr Baird and taking all things into consideration I am sure I did right in doing so. I do not agree with you in thinking that my having voted for him will give him the power to control the policy of the Institution; neither do I think that the proposition you made at the meeting of the Board of Regents has any connection whatever with the vote in the academy. It is the same which I have advocated from the first, and which I doubt not will meet the approval of the majority of the intelligent naturalists of the world. If Mr. Baird should attempt to interfere with the policy of the Institution I would not hesitate to ask him to resign, and to insist on his doing so; as I did in the case of Mr. Jewett. But I have not the least idea of any trouble with him in this way; or that for many years to come any thing can be done in the way of carrying out your proposition. Had the war been brought to an end last spring we might have indulged a hope of this kind; but the immense ad-

ditions which have been since made to the national debt will induce a very cautious policy in regard to the appropriation of the public funds.

You do me but simple justice in supposing that I would not willingly join in any intrigue to advance personal or party ends. In the whole course of my life I have never engaged in any thing of the kind and it is now too late for me to change my character in this respect. It is necessary however sometimes to have an eye on the acts of others in order to thwart their improper designs.

I think you are regarding this matter of the academy in so serious a light that it will unfavourably affect your health and spirits. I fully agree with you in opinion as to the desirableness of elevating the standard of American science; but we must recollect that great changes are seldom or never produced *per saltum* and that we frequently waste our strength in endeavouring to suddenly overcome an obstacle which will gradually give way under a gentle but constant pressure. I fear had you succeeded in excluding Baird from the academy on the ground of the character of his investigations you would have aroused a large amount of personal opposition and have been subjected to criticisms and other annoyances which to a nature like yours, craving love and sympathy, would have been exceedingly painful. Why trouble yourself so much about the character of American science which can only be improved with the social and political conditions which tend to encourage and develop it. You have already done good service by your presence in this country,—by your immediate instruction and by the enthusiasm and sympathy, which you never fail to awaken. You are formed to lead men by the silken words of love rather than to urge them on by the rough method of coercion. Let me beg of you therefore, my Dear Professor, to first take care of your health and secondly to devote yourself for the remainder of your life to those investigations which have given you so wide and permanent a reputation and in which at every step you can elevate yourself in your own self esteem as well as in the admiration of the world; and afford to look down with complacency on the means to which ordinary men resort to raise themselves into temporary notoriety.

It is lamentable to think how much time, mental activity, and bodily strength have been expended among us during the last ten years, in personal altercations, which might have been devoted to the discovery of new truths;—to the enlargement of the bounds of knowledge, and the advancement of happiness. There is cause for this which might be discovered; and I will venture just to mention a principle of action which may have had some influence in producing the results. I allude to the principle of supporting our friends right or wrong. I grant that this principle of action springs from the generous impulse of a warm heart; but it does not receive the approval of the moral judgement of a

cool head. We are not true to our friend if we follow, or assist him, in a single step in the wrong direction. You lost an invaluable friend in Professor Felton who with his unselfish disposition, and expanded sympathy ever acted as a bond of harmony and union between all the varied characters that constitute the faculty and associates of Cambridge; and should it be the design of Providence to remove Professor Bache, which Heaven in its mercy forbid, a similar change, though of a somewhat different character will be felt in the circle of which he is the controlling centre.

August 28th. Thus far I had written on the day of the date of the first part of this letter; but I was a little doubtful as to how you might receive some parts of the communication and amidst an unusual pressure of engagements I have suffered it to remain in my portfolio until tonight, when I am on the eve of leaving this city with my family. On reading however what I have written I am sure that you will receive it in the same spirit in which it is written and although you may not agree with me in all the positions I have taken I trust you will find, in none of them, cause of offense.

I have never been more severely worked than I have been since I last saw you in New Haven. On account of the illness of the wife & daughter of Professor Baird he was obliged to leave this city about the first of July; and the unexpected and very sudden death of the wife of Mr. Rhees has rendered him unfit to discharge the duties of his office and he has gone to the western part of the state of N. Y. I have therefore been alone in the Institution; and with the call upon my time from the Light-House Board—the permanent commission and other business connected with the government I have scarcely had a moment of rest, except while in bed, for some weeks past.

I start tomorrow morning at six o'clock to take Mrs. Henry & Helen to Chesnut Hill near Phil^d and Mary and Caroline to Shelter Island, to pay a visit to Professor Horsford's family which has been long owed. Helen is not very well though I think she is somewhat better—certainly not worse than when you were last in Washington.

I have written to Professor Baird to give him a statement of your course in regard to his election. I shall give him, when we meet a more full exposition of your views. He should know that his election was not entirely a compliment to him since some voted to sustain a principle, and others voted for him because he was the ostensible choice of the majority of the naturalists present. I shall probably visit Boston some time before the middle of Oct. and will confer with you on the topic of this letter. With kind regards to Mrs. Agassiz I remain your

Friend &c &c

Joseph Henry

Professor Agassiz

Painting in Board Room of NAS & NRC building --

Artist: Albert Herter

Note: Herter was interested in, and knowledgeable about, tapestries. In the "Lincoln with Founders" painting, the background is a tapestry.

Informal title of painting: Abraham Lincoln handing down the Charter to the Founders of the National Academy of Sciences

Identification of individuals in the painting - Left to Right:

Benjamin Peirce 1809-1880	Perkins Chair of Mathematics and Astronomy, Harvard College. Instrumental in the establishment of the Observatory at Harvard. For seven years Professor Peirce was Superintendent of the U.S. Coast Survey, having been appointed in 1867 after the death of Alexander Dallas Bache.
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Alexander Dallas Bache 1806-1867	Great-grandson of Benjamin Franklin. Bache was a leading mind in the establishment of the National Academy of Sciences and was its first President. Bache, as President of the American Association for the Advancement of Science, pointed out in his retiring Presidential Address in 1851, the need of the nation for a National Academy of Sciences. Specifically he said that "an institution of science supplementary to existing ones is much needed in our country to guide public action in reference to scientific matters."
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After graduating and teaching at West Point, he was appointed Professor of Natural Philosophy and Chemistry at the University of Pennsylvania. As a member of the first Board of Regents of the Smithsonian Institution, it was entirely due to Bache's influence that Joseph Henry was persuaded to become the first Secretary of the Smithsonian. Among Bache's several positions, he was Superintendent of the U. S. Coast Survey, and Superintendent of Weights and Measures of the United States.

Joseph Henry 1799-1878	After teaching at Albany Academy, he was appointed in 1832 as Professor of Natural Philosophy at Princeton University, then the College of New Jersey. During his 14 years there, all his spare time was spent in original research in electro-magnetism. In 1846 he became the first Secretary of
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Henry (continued)

the Smithsonian Institution. He was Secretary for 31 years until his death in 1878. He became President of the National Academy of Sciences in 1868 and served as President until his death.

Louis Agassiz
1807-1873

Born in Switzerland, he studied medicine and zoology at the University of Munich (1827-1830), receiving his Doctor of Medicine at Munich. In 1829 he had taken the degree of Doctor of Philosophy at the University of Erlangen. He was appointed in 1832 to the chair of natural history in the College of Neuchâtel. His research and publications dealt mainly with ichthyology. He served at Neuchâtel for 14 years when his life was changed by an invitation to lecture before the Lowell Institute in Boston. Remaining in this country, his greatest achievement was the organization of the Scientific School and Museum of Comparative Zoology at Harvard. Agassiz was the first Foreign Secretary of the National Academy of Sciences.

Abraham Lincoln
1809-1865

Sixteenth President of the United States, 1861-1865. He signed the Act of Incorporation of the National Academy of Sciences on March 3, 1863.

Henry Wilson
1812-1875
Senate 1855-1873

Senator from Massachusetts, and afterwards, Vice President of the United States, who introduced the bill incorporating the Academy.

Charles Henry Davis
1807-1877

He entered the Navy in 1823, having left Harvard College for that purpose before his course was completed. However, he took his degree at Harvard in 1825. In the Navy he studied astronomy and hydrology, and his experience in navigation lead to a position in the U.S. Costal Survey. Under Navy sponsorship, he was in charge of publishing an American Ephemeris and Nautical Almanac, and by successfully establishing it, made an enduring monument to his abilities. During the Civil War he rose to the rank of Rear Admiral. In 1863 he became the first Chief of the Bureau of Navigation, and in 1865 assumed the superintendency of the Naval Observatory. He chaired the Transit of Venus Commission in 1874. With respect to the establishment of the Academy, he is credited with being the first to conceive the idea of having it incorporated under the Federal Government. He was a member of the first Council of the National Academy of Sciences.

Benjamin Apthorp Gould
1824-1896

At Harvard Gould studied the classics and mathematics, graduating in 1844. In 1845 he went to Europe and spent three years in astronomical study at Berlin, Paris, and other cities, receiving his Ph.D. from the University of Göttingen. From 1852 to 1867 Dr. Gould carried forward, under the U. S. Coast Survey, the work begun by Bache and others in fixing the longitude of places in the United States.

In 1870 he went to the Argentine Republic where he built a government observatory at Cordoba. Remaining in Argentina for 15 years he devoted himself to the study of the southern celestial hemisphere, the crowning work of his life. Returning to the United States in 1885, he brought with him 1400 photographic plates of the southern stellar clusters. To the measurement and reduction of these he devoted the rest of his life, publishing his results in the Astronomical Journal.

He was a member of the Council of the Academy, 1865-1867. After his return from Argentina he again became active in Academy work, serving on a committee in 1890 to reconstitute Academy Sections, which structure had been abandoned in 1872.

His daughter, Alice Bache Gould, provided the funds for the NAS Trust Fund known as the Benjamin Apthorp Gould Fund for research in the astronomical sciences.

In the main, the above information on the Founders with Lincoln in the Herter painting is excerpted from Frederick W. True's A History of the First Half Century of the National Academy of Sciences: 1863-1913, The Lord Baltimore Press, Baltimore, Maryland, 1913.

Note: As an aside concerning the artist, Albert Herter, his son, Christian A. Herter, was Secretary of State under Eisenhower, 1959-1961.

Jean R. St. Clair

Jean R. St. Clair

NAS Archivist

22 Apr 1982

NATIONAL ACADEMY OF SCIENCES

2101 Constitution Avenue Washington, D. C. 20418

OFFICE OF THE ARCHIVIST

September 14, 1988

Ms. Sarah Vosmeier
Louis A. Warren Lincoln Library and Museum
P.O. Box 1110
Fort Wayne, Indiana 46801

Dear Sarah:

Enclosed is a copy of the guide to the National Academy of Sciences-National Research Building. The Albert Herter painting of Abraham Lincoln with the Academy's founders is discussed on page 32. On pages 25 and 26 are descriptions of other works by Herter in the building. A note on Herter is on page 40.

Also enclosed are a photocopy of a photograph of the Board Room showing the painting, Christmas cards illustrated with the painting in color, and two documents describing the persons in the painting. Please note that Benjamin Peirce's name is spelled incorrectly on the card; it is correct in the listings.

As we discussed yesterday, the painting was commissioned by the Committee on the Building in 1924. Herter contracted to provide several paintings and murals for the building; in the contract dated January 1924 the subjects for the Prometheus and for the Founders' paintings were stated. The event depicted in the painting--that the founders of the Academy met with the President at the time the charter was signed--is apocryphal.

In the event that you are interested in the history of the founding of the Academy as well as in the painting, you may wish to read the enclosed article by Hunter Dupree, "The Founding of the National Academy of Sciences--A Reinterpretation."

Please let me know if I can be of further assistance.

Sincerely,



Janice F. Goldblum
Deputy Archivist

Enclosures



Next year, 1988, marks the 125th Anniversary of the National Academy of Sciences. On March 3, 1863, an Act of Congress incorporated the National Academy of Sciences as a private body dedicated to the furtherance of science and technology and available to advise the federal government upon request.

At the time of the Academy's establishment, the United States was emerging as a technological society. The Academy's creation stemmed not only from the practical problems of national security, but also from a motivation to marshal the abilities and talents of the country's scientific community to guide a fledgling nation.

Since that time, the United States has grown into the world's foremost technological nation. In the same period, the Academy has built a scientific and technological advisory organization drawing upon a wide cross-section of the nation's experts.

The painting by Albert Herter, which hangs in the Board Room of the National Academy of Sciences Building, depicts President Abraham Lincoln with the founders of the Academy signing the Academy charter. Left to right: Benjamin Pierce, Alexander Dallas Bache, Joseph Henry, Louis Agassiz, Lincoln, Henry Wilson, Charles H. Davis, and Benjamin A. Gould.

Pierce

All good wishes for a
Happy Holiday Season
and the New Year,
1988

Billie and Frank Press
The National Academy of Sciences

Photograph by Carol M. Highsmith

Hevier Alvent A. H. S. F.

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